

REMARKS/ARGUMENTS

The Office Action mailed July 7, 2004, has been received and reviewed. Claims 1 through 25 are currently pending in the application. Claims 1 through 25 stand rejected. Claims 1, 9, and 14 have been amended. Claims 6 and 7 have been canceled without prejudice or disclaimer. New claim 26 has been added. Applicants respectfully request reconsideration of the application as amended herein.

Support for new claim 26 is found in the as-filed specification at at least paragraph [0041].

Information Disclosure Statement(s)

The Examiner has drawn a line through four of the non-patent publications cited in the Information Disclosure Statement filed on February 5, 2004, because copies of the publications were not available in the PTO's file for the parent application. Applicants submit herewith a Supplemental Information Disclosure Statement citing the missing non-patent publications along with a copy of the missing publications and filing fee.

Applicants respectfully request that the references be considered and made of record in the above-referenced application and an initialed copy of the Form PTO/SB/08 be returned to the undersigned attorney as evidence of such consideration.

Objection Under 37 C.F.R. 1.75(c)

Claims 2 and 15 are objected to under 37 C.F.R. 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants respectfully traverse this objection, as hereinafter set forth.

The Examiner contends that "the limitation in claims 2 and 15 are the inherent structure of vapor-grown carbon fibers" and that "the limitation does not appear to further limit claims 1 and 14." (See, Office Action of July 7, 2004, at page 2.) 37 C.F.R. 1.75(c) "requires the dependent claim to further limit a proceeding claim." (See, M.P.E.P. § 608.01(n)II and Examiner Note 2.) M.P.E.P. § 608.01(n)II and III state that the "test as to whether a claim is a proper dependent claim is that it shall include every limitation of the claim from which it depends (35

U.S.C. 112, fourth paragraph) or in other words that it shall not conceivably be infringed by anything which would not also infringe the basic claim.” A “dependent claim does not lack compliance with 35 U.S.C. 112, fourth paragraph, simply because there is a question as to (1) the significance of the further limitation added by the dependent claim, or (2) whether the further limitation in fact changes the scope of the dependent claim from that of the claim from which it depends . . . The test is not one of whether the claims differ in scope.” (See, M.P.E.P. § 608.01(n)III.)

The Examiner’s comments indicate that the instant objection is based on scope, *i.e.* it appear that the Examiner believes that there is no further limitation of the dependent claim as compared to the independent claim. This objection is improper based on the test required by M.P.E.P. § 608.01(n)III because claims 2 and 15 recite everything claimed in their respective independent claims, 1 and 14. As such, Applicants respectfully request reconsideration of the objection to claims 2 and 15.

35 U.S.C. § 112, First Paragraph, Claim Rejections

Claim 9 stands rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicants have amended claim 9 to recite that “the at least one crosslinkable polymer comprises between about 55 weight percent and about 70 weight percent of a total weight of the insulating material.” Support for the amendment is found in the as-filed specification at at least paragraph [0031].

In light of this amendment, Applicants respectfully request that the rejection be withdrawn.

Double Patenting Rejection Based on U.S. Patent No. 6,691,505

Claims 1 through 5, 8, and 10 through 25 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of U.S.

Patent No. 6,691,505. In order to avoid further expenses and time delay, Applicants elect to expedite the prosecution of the present application by filing a terminal disclaimer to obviate the double patenting rejections in compliance with 37 CFR § 1.321 (b) and (c). Applicants' filing of the terminal disclaimer should not be construed as acquiescence in the Examiner's double patenting or obviousness-type double patenting rejections. Attached are the terminal disclaimer and accompanying fee.

35 U.S.C. § 102(b) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 5,409,775 to Harada *et al.*

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Harada *et al.* (U.S. Patent No. 5,409,775, hereinafter referred to as "Harada").

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Harada discloses vapor-grown carbon fibers with a diameter of less than or equal to 5 microns and a length less than or equal to 90 microns. (*See* Harada at column 3, lines 38-41.) The vapor-grown carbon fibers are used with a binder to form a composite material. (*Id.* at column 2, lines 52-57.) The vapor-grown carbon fibers are present in the composite material from at least 50% by weight and, preferably, consist of substantially all of the composite material. (*Id.* at column 7, lines 56-58 and column 8, lines 25-29.) The binder is present in the composite material at less than 20% by weight. (*Id.* at column 7, lines 61-62.)

The Examiner contends that claims 1 and 2 are "clearly anticipated by U.S. patent 5,409,775," because Harada teaches "a composite comprising vapor-grown carbon fibers, which have the claimed structure and a rubber material, which is a cured elastomer (col. 8, line 21)." (*See, Office Action* of July 7, 2004, at page 4.)

As amended, claim 1 recites that the vapor-grown carbon fibers are present from at least 10 weight percent to not more than about 30 weight percent of a total mass of the insulating

material. Support for this amendment is found in the as-filed specification at at least paragraph [0044]. Since Harada does not disclose a composition having a total weight percent of vapor-grown carbon fibers ranging from at least 10 weight percent to not more than about 30 weight percent, Harada does not describe each and every element of claim 1. As such, Applicants respectfully submit that the anticipation rejection of independent claim 1 is improper and should be withdrawn.

Dependent claim 2 is allowable, *inter alia*, as depending from an allowable independent base claim.

Anticipation Rejection Based on U.S. Patent No. 5,989,459 to Nguyen *et al.*

Claims 1, 2, 5, 6, 8, 10, 14, 15, 18, 19, and 23 through 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Nguyen *et al.* (U.S. Patent No. 5,989,459, hereinafter referred to as “Nguyen”). Claim 6 has been canceled, rendering the rejection moot as to this claim.

Nguyen discloses a compliant and crosslinkable material including at least one unsaturated or saturated malenized rubber with maleic anhydride adducted to the molecule and at least one unsaturated or saturated hydroxyl terminated olefin rubber and at least one thermally conductive filler. (*See* Nguyen at column 2, lines 9-15.) The conductive filler is vapor-grown carbon fibers and is present in the crosslinkable material at about 1-5% by weight, such as about 0.5% by weight. (*Id.* at column 4, lines 44-55 and Table 4.) Nguyen also discloses that it is hard to use large amounts of the vapor-grown carbon fibers. (*Id.* at column 4, lines 1-3.)

The Examiner states that Nguyen “teaches an insulating material made from a cured precursor composition comprising a crosslinkable elastomer and about 0.5 wt% vapor-grown carbon fibers having a length of 50-100 microns,” and that these fibers “inherently have the claimed structure and the amount and length fall within the claimed ranges.” (*See, Office Action* of July 7, 2004, at page 4.) However, as amended, independent claim 1, recites that the vapor-grown carbon fibers are present from at least 10 weight percent to not more than about 30 weight percent of a total mass of the insulating material. Independent claim 14 recites a similar limitation of “providing a composition consisting essentially of at least one crosslinkable polymer and vapor-grown carbon fibers, wherein the vapor-grown carbon fibers are present from

at least 10 weight percent to not more than 30 weight percent of a total mass of the insulating material.” Since Nguyen only discloses that the vapor-grown carbon fibers are present in its compliant and crosslinkable material at 1-5% by weight, claims 1 and 14 recite elements that are not described in Nguyen. As such, Applicants respectfully submit that the anticipation rejection of claims 1 and 14 is improper and should be withdrawn.

Claims 2, 5, 8, 10 depend from independent claim 1 and claims 15, 18, 19, and 23 through 25 depend from independent claim 14. As such, these claims are allowable, *inter alia*, as depending from an allowable base claim.

Anticipation Rejection Based on Japan Patent No. 08-127674 to Kazuo *et al.*

Claims 1, 2, 8, 10, 11, 14, 15, 19, 20, and 23 through 25 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kazuo *et al.* (Japan Patent No. 08-127674, hereinafter referred to as “Kazuo”).

Kazuo discloses an antistatic rubber composition that includes a natural or synthetic rubber, a silica filler, and vapor-grown carbon fibers. (*See* Kazuo at the Abstract.) The silica filler provides antistatic properties to the rubber composition. (*Id.* at paragraph [0025].)

The Examiner contends that Japan Patent No. 08-127674 to Kazuo “teaches a material comprising natural or synthetic rubber and vapor-grown carbon fibers,” and that the “reference teaches the claimed material and process.” (*See, Office Action* of July 7, 2004, at page 5.) However, as amended, independent claim 1 recites that the insulating material “consists essentially of” the cured elastomer and the vapor-grown carbon, wherein the vapor-grown carbon fibers are present from at least 10 weight percent to not more than about 30 weight percent of a total mass of the insulating material. Independent claim 14 has been amended similarly to recite “providing a composition consisting essentially of at least one crosslinkable polymer and vapor-grown carbon fibers, wherein the vapor-grown carbon fibers are present from at least 10 weight percent to not more than 30 weight percent of a total mass of the insulating material.” Since Kazuo recites that its rubber composition includes a natural or synthetic rubber, a silica filler, and vapor-grown carbon fibers, Kazuo does not anticipate the claimed invention because claims 1 and 14 recite the closed transitional phrase of “consisting essentially of.” As such,

Applicants respectfully submit that the anticipation rejection is improper and should be withdrawn.

Claims 2, 8, 10, and 11 depend from claim 1 and claims 15, 19, 20, and 23 through 25 depend from claim 14. These dependent claims are allowable, *inter alia*, as depending from an allowable base claim.

Claims 23 and 24 are further allowable because Kazuo does not disclose dispersing the vapor-grown carbon fibers under substantially solvent-free conditions or in the absence of an organic solvent. The Examiner states that Kazuo discloses a solvent free precursor mixture. (*See, Office Action* of July 7, 2004, p. 5.) Applicants disagree because Kazuo teaches the use of solvents, such as benzene, toluene, and styrene, as carbon sources at paragraph [0045].

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on Harada

Claims 3 through 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Harada. Applicants respectfully traverse the rejection, as herein after set forth.

M.P.E.P. 706.02(j) sets forth the standard for an obviousness rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

The obviousness rejection of claims 3 through 5 is improper because Harada does not teach or suggest all of the claim limitations and does not provide a motivation to produce the claimed invention.

Claims 3 through 5 are dependent on claim 1 and, therefore, include the limitations of claim 1. As described above in the anticipation rejection of claim 1, Harada does not expressly

or inherently describe the limitation of “vapor-grown carbon fibers [that] are present from at least 10 weight percent to not more than about 30 weight percent of a total mass of the insulating material.” Since Harada does not describe all of the elements of independent claim 1, Harada necessarily does not teach or suggest all of the claim limitations of claims 3 through 5, which depend on claim 1.

Harada also does not provide any motivation to produce the claimed invention. Nothing in Harada provides any motivation to use the recited amount of vapor-grown carbon fibers. In fact, since Harada discloses that the vapor-grown carbon fibers are present in its composite material at 50 weight percent or more, Harada teaches away from the claimed invention.

Claims 3 through 5 are also allowable, *inter alia*, as depending from an allowable base claim.

Obviousness Rejection Based on Nguyen

Claims 3, 4, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nguyen. Applicants respectfully traverse the rejection, as herein after set forth.

The obviousness rejection of claims 3, 4, 16, and 17 is improper because Nguyen does not teach or suggest all of the claim limitations and does not provide a motivation to produce the claimed invention.

Claims 3 and 4 are dependent on claim 1 and claims 16 and 17 are dependent on claim 14. Therefore, these dependent claims include the limitations of claims 1 and 14, respectively. As described above in the anticipation rejection of claim 1 and 14, Nguyen does not expressly or inherently describe the limitations of “vapor-grown carbon fibers [that] are present from at least 10 weight percent to not more than about 30 weight percent of a total mass of the insulating material” and “providing a composition consisting essentially of at least one crosslinkable polymer and vapor-grown carbon fibers, wherein the vapor-grown carbon fibers are present from at least 10 weight percent to not more than 30 weight percent of a total mass of the insulating material.” Since Nguyen does not describe all of the elements of independent claims 1 and 14, Nguyen necessarily does not teach or suggest all of the claim limitations of claims 3, 4, 16, and 17, which depend on claims 1 or 14.

Nguyen also does not provide any motivation to produce the claimed invention. Nothing in Nguyen provides any motivation to use the recited amount of vapor-grown carbon fibers. In fact, since Nguyen discloses that it is hard to use large amounts of the vapor-grown carbon fibers, Nguyen teaches away from the claimed invention.

Claims 3, 4, 16, and 17 are also allowable, *inter alia*, as depending from an allowable base claim.

Obviousness Rejection Based on Kazuo

Claims 3 through 7, 12, 13, 16 through 18, 21, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kazuo. Claims 6 and 7 have been canceled, rendering the rejection moot as to these claims. Applicants respectfully traverse the rejection as to the remaining claims, as herein after set forth.

The obviousness rejection of claims 3 through 5, 12, 13, 16 through 18, 21, and 22 is improper because Kazuo does not teach or suggest all of the claim limitations and does not provide a motivation to produce the claimed invention.

Claims 3 through 5, 12, and 13 are dependent on claim 1 and claims 16 through 18, 21, and 22 are dependent on claim 14. Therefore, these dependent claims include the limitations of claims 1 and 14, respectively. As described above in the anticipation rejection of claim 1, Kazuo does not expressly or inherently describe that the insulating material “consists essentially of” the recited components. As described above in the anticipation rejection of claim 14, Kazuo also does not expressly or inherently describe “providing a composition consisting essentially of at least one crosslinkable polymer and vapor-grown carbon fibers, wherein the vapor-grown carbon fibers are present from at least 10 weight percent to not more than 30 weight percent of a total mass of the insulating material.” Since Kazuo does not describe all of the elements of independent claims 1 and 14, Kazuo necessarily does not teach or suggest all of the claim limitations of dependent claims 3 through 5, 12, 13, 16 through 18, 21, and 22.

Kazuo also does not provide a motivation to produce the claimed invention. Nothing in Kazuo provides any motivation to use the recited components of the insulating material. In fact,

Kazuo discloses that rubber, the silica filler, and the vapor-grown carbon fibers are important to achieve the desired properties of its antistatic rubber composition.

Claims 3 through 5, 12, 13, 16 through 18, 21, and 22 are also allowable, *inter alia*, as depending from an allowable independent base claim.

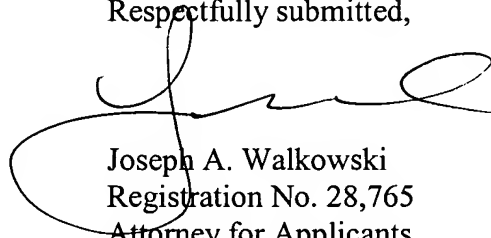
ENTRY OF AMENDMENTS

The amendments to claims 1, 9, and 14 should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add new matter to the application.

CONCLUSION

Claims 1-5 and 8-26 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, she is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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